INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Date: December 10, 2007

To: Interested Parties

From: Thomas Linson, Chief TL 12/7/07
Permits Branch
Office of Land Quality

Subject: Concentrated Animal Feeding Permits

The Indiana Department of Environmental Management (IDEM) is notifying Optima Dairy Leasing, LLC, that they have satisfied the requirements to receive coverage under a individual National Pollution Discharge Elimination System (NPDES) permit. The permit authorizes the construction and operation of a dairy.

Please find enclosed a copy of the notice of decision and a responsiveness summary to comments that was prepared based on questions and concerns received by IDEM relative to the operation.

If you have any questions relative to the notice please contact Mr. Daniel Bruggen at (317) 233-3554, or toll free at (800) 451-6027, extension 03-3554.

Please bring this matter to the attention of persons you believe may have an interest in it.

Enclosures: Notice of Decision
Responsiveness Summary to Comments

cc: Koen Alley- Optima Dairy Leasing, LLC (with enclosures)
Myron Sink (with enclosures)
Dave Gerdeman- North Point Engineering (with enclosures)
Karen Miller- Vreba-Hoff Dairy Development, LLC (with enclosures)
Brian Daggy- Agricultural Environmental Consulting, LLC (with enclosure)

Indiana Department of Environmental Management
Response to Public Comments
Optima Dairy LLC
NPDES CAFO Permit Application

On July 18, 2007, Optima Dairy Leasing, LLC, submitted to the Indiana Department of Environmental Management (IDEM) an application for a National Pollutant Discharge Elimination System, Concentrated Animal Feeding Operation (NPDES CAFO) individual permit. The application is a request to construct and operate a dairy populated with 2,201 mature dairy cattle and 40 dairy calves.

IDEM received public comments concerning this application verbally, in writing and during a public comment period. Similar comments have been consolidated and paraphrased into one comment for efficiency of response.

The following responses have been prepared by IDEM staff to address the concerns expressed.

1. **Comment:** There is a concern about the amount of waste this dairy may produce.

   Response: The state regulations require these farms to be designed to provide for six months storage capacity of manure and wastewater. It also requires that farms have access to sufficient acreage to apply the manure at agronomic rates based on crop nutrient demand and soil fertility levels. This farm's waste storage system provides approximately one year of storage capacity and the farm has access to more than sufficient acreage for land applying manure and wastewater.

2. **Comment:** There is a concern that land application of manure will contaminate surface waters with increased nitrogen from manure runoff and have a negative impact to fish and other wildlife.

   Response: Land application of the manure and wastewater in compliance with the permit conditions provides a high level of confidence that the potential of runoff and nutrient loss to surface waters will be minimized. These requirements include:

   1. Do not land apply manure when the soil is saturated.
   2. Monitor field nutrient levels as well as the manure nutrient content in order to land apply at agronomic rates.
   3. Monitor rainfall predictions at least 24 hours in advance and 24 hours after any land application activities.
   4. Implementation of a Soil Conservation Practice Plan on land application sites.
   5. Maintain required setback distances from site features including field tile inlets, streams, ditches, ponds and wetlands.
   6. Monitoring of field tiles that outlet under or bordering the land application sites during and after manure applications.
   7. Document compliance with the above by keeping records for at least five years and made available to IDEM.

3. **Comment:** Groundwater quality will decrease as a consequence of the dairy activities.

   Response: Protecting the quality of ground water is also a major concern of IDEM. All of the state standards for design of waste storage structures, and the standards for land applying the manure are intended to provide a high level of protection of ground water quality. For this location and proposal, IDEM is requiring the installation of a ground water monitoring system at the production area. This provides the ability to measure the groundwater quality in close proximity to any manure or wastewater storage structures. The wells identified in the application are piezometers, which will be utilized to determine ground water flow direction. The final locations of the ground water monitoring wells are depicted on page 2 of 10, from the plans received by IDEM on August 24, 2007. The facility will be required by IDEM to sample all the ground water monitoring wells semi-annually. All ground water sampling and analysis results shall be submitted to IDEM within sixty (60) days of sampling.

4. **Comment:** Can we adequately regulate, inspect, and monitor these facilities under the current rules?

   Response: IDEM believes the current rules and regulatory program provide a great deal of oversight when it comes to issues that address protecting water quality. This oversight begins with design and construction requirements then continues with manure handling and land application activities and concludes with self monitoring and record keeping requirements, which are reviewed by our compliance staff during farm inspections. IDEM will provide appropriate oversight to assure the farm complies with the imposed requirements. IDEM will conduct inspections of the facility during construction and operation to assure compliance with the regulations and permit. Those inspections will also verify that self-inspections are being conducted by the permittee.

5. **Comment:** Manure application by soil injection should be required by the permit.

Response: Requiring injection is not feasible, as part of the manure will be mixed with dewatered sand, which must be surface applied. IDEM prefers to leave the disposal method options available to the farm, unless it is demonstrated that injection is necessary, to prevent water quality violations.

6. **Comment:** Concerned about health effects from pathogens found in manure.

   Response: Manure that is land applied properly presents a minimal risk of pathogen exposure due to normal land application activities. Protecting water quality serves to minimize potential of any exposure to surface waters or groundwater containing manure pathogens.

7. **Comment:** There is a concern that groundwater will be depleted by the farm from a hydrogeologist report and concerned citizens.

   Response: The permittee will be conducting a pump test as part of the development of a ground water monitoring plan, which should verify the capacity and ability of the aquifer to provide the quantity of water needed. In addition, there are provisions in state law IC 14-25 to have a ground water emergency declared by the Department of Natural Resources (DNR) if a well is adversely impacting other wells and DNR may require the withdrawal well to restrict or suspend operation.

8. **Comment:** There is concern that the issue of shallow ground water encroachment into the lagoon was not satisfactorily resolved by IDEM or the applicant. Shallow ground water could cause uplift of the liner.

   Response: A perimeter drain around the manure storage lagoon will be installed to address these concerns. An access point for sampling is provided at the northwest corner of the perimeter drain.

9. **Comment:** Companies contracted to land apply manure are not held responsible to comply with the permit.

   Response: IDEM understands that the applicant may be contracting with other parties to do land application. This is fairly common practice to use custom applicators. The dairy or person hiring the contractor will be responsible for assuring the manure is applied in accordance with the permit.

10. **Comment:** Several comments were received concerned airborne pollutants, odors, noise and property values from a hydrogeologist report and concerned citizens.

    Response: IDEM is given the authority through legislation and the rules to regulate CAFOs based on water quality concerns. Other concerns relative to odors, traffic, property values, etc. are outside of IDEM's authority to address through the permitting process. Local land use ordinances must be relied upon to address those issues. The US EPA is conducting a two year study of air emissions from animal feeding operations. The study will include what types of pollutants are present and the quantity released. Based on the results, EPA will give a recommendation on any permitting requirements that may be appropriate to address those emissions.

11. **Comment:** The Cronin Ditch is located within the manure land applications sites, and drains into Wabash River. How is the over-application of manure controlled by IDEM?

    Response: The requirements listed in response #2 are all good manure management practices that serve to minimize potential of runoff. The Soil Conservation Practice Plan must be implemented on all manure application sites owned or controlled by the applicant. The plan must be written in accordance with standards to minimize nutrient loss through leaching or runoff. The plan will address each field's limiting factors and what measures are needed to achieve the adopted performance standards. These measures are site specific and can include but are not limited to: timing application (spring vs. fall), method of application (injection vs. surface), rate of application, and installation of erosion control practices and structures.

    NPDES permits for CAFO's provide a list of narrative water quality standards and are Clean Water Act permits. IDEM is the Clean Water Act permitting authority in Indiana. IDEM's Office of Water Quality, administers Indiana's water quality monitoring program. The 303d water quality assessment program provides a mechanism for IDEM to monitor water bodies within the state on a five year rotational basis. The results of these monitoring events is an inventory of water quality allowing the identification of waters being affected by current activities. These activities include negative water quality impacts from residential, municipal, industrial, agricultural and recreational areas. The Wabash River basin is included in this ongoing water quality monitoring program.

12. **Comment:** How will the waste be land applied? Will the waste be blended with irrigation water? Will the waste be trucked to the site and then fed to the center pivot with above ground hose, or will there be underground piping placed at each land application site to transfer the dairy waste from the road to the sprinkler system?

    Response: IDEM historically has not dictated the method used for manure land application. The NPDES and CFO regulation was established with certain land application performance standards that must be met regardless of the method utilized. The application solicits the method of application, which will be primarily used, but the permit does not limit them to use only one method.

    The permit requires that a Soil Conservation Practice Plan (SCPP) be implemented on all manure application sites owned or controlled by the permittee. The plan must be written in accordance with standards to minimize nutrient loss through leaching and runoff. The SCPP will address each field's limiting factors and what measures are needed to achieve the adopted performance standards. These measures are site specific and can include but are not limited to; timing of application (spring vs. fall), method of application (injection vs. surface), rate of application, and the installation of erosion control practices.

    Regulations are written in such a way that setbacks and site restrictions apply to all sites and any waiver from the regulations must be obtained on a site specific basis. In order to conduct an application of manure at agronomic rates, a soil test must be done to identify the current level of soil fertility and a manure analyses provides manure nutrient levels. This combined soil and manure nutrient information must be taken into account in calculating how much manure may be applied.

13. **Comment:** The permit states that "liquid or solid manure or process wastewater must not be applied to highly erodible land unless the application to such land is specifically addressed in the Soil Conservation Practices Plan. Why would IDEM issue a permit before this critical plan is developed? Who at the agency is going to review the plan and when?

    Response: The key to this regulatory approach is that prior to the initiation of any land application activities, the plan must be written. Since Indiana law provides two years to start construction of an approved farm and four years to complete construction, it could theoretically be four years before any manure is applied from that farm. IDEM will have sufficient opportunity to review the plan for completeness.

14. **Comment:** The draft permit states that "land application sites must be inspected to identify any field tile outlets under or immediately bordering the land application site." The applicant made no mention of locations of field tile outlets at any of the proposed land application sites. Who will inspect the land application areas? Why hasn't this been done prior to drafting of the permit? Will the applicant perform the inspection, or will the non-permitted third party do it? How will IDEM gain access to the land application sites to perform their own inspection?

    Response: Many fields may be identified as potential land application sites, but not all will be used in the first year of operation. It is important that the field tiles present just prior to land application activities be identified and monitored. It is the permittees responsibility to comply with the permit conditions, whether it is done by the applicant personally, or by a contractor under this applicant's control. IDEM staff have the right to enter any of the applicants property or property used for land application to verify compliance with the regulations and the permit.

15. **Comment:** Manure should not be applied on frozen ground.

    Response: The permit prohibits application of manure to frozen ground unless a soil conservation practice plan is developed and more stringent requirements for land application are followed. The use of a spray irrigation system will be prohibited on frozen ground.

16. **Comment:** We would like IDEM to extend the 30 day public comment period with an additional 30 days.

    Response: The current regulations that apply to CAFOs were subject to public input at various stages of their development. The public has been provided a good opportunity to comment on the permit, therefore an extension to comment on the draft permit is not warranted.

17. **Comment:** We are concern about who will pay for inevitable spills and clean-ups.

    Response: The agency will hold responsible parties accountable for correcting any problems or contamination they create. During rule making, bonding was not determined to be necessary to impose on CFO/CAFO's due to a lack of incidences where the responsible party was unable to afford corrective measures to address a problem.

18. Comment: How will IDEM enforce application of manure for setbacks, surface water drainage, and tile system drainage?

Response: IDEM will be conducting inspections, which address all applicable requirements, including those affecting land application activities.

19. Comment: Manure should not be applied on saturated ground.

Response: The permit prohibits application of manure to saturated ground.

20. Comment: How is the farm planning to manage dead animal disposal?

Response: IDEM does not require that farms detail their intent on mortality management. The State Board of Animal Health is responsible for regulating dead animal disposal. Disposal must be done by one of the following methods: 1) approved disposal plant; 2) burial with special rules; 3) complete incineration and 4) composting.

21. Comment: Who will be testing household wells to assure area residents that their drinking water is safe to drink? Who will be responsible if contamination occurs in shallow household wells in the area surrounding the dairy?

Response: Residents are encouraged to test the quality of their well water with or without the proposed construction of a confined feeding operation. Many residential features and activities in close proximity to a well, including malfunctioning septic tanks and leach fields, over application of lawn fertilizers/pesticides and improperly discarded household chemicals can be a source of well contamination. IDEM encourage residents to contact their County Health Department to learn the correct procedures to test well water quality. If the dairy is found to be responsible for well contamination, they would be held responsible to correct the problem.